

MCARTHUR. (L.L.)





## To the Medical Profession.

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In soliciting an investigation of the principles upon which the construction of the "Jaros Hygienic Wear" is founded, as well as the results achieved by its use, I prefer a reference to the testimonials and reports appended, rather than dilate on the special merits myself.

With many thanks for the expressions herein embodied, I tender assurances that they shall be used in a manner according with the ethics of the profession.

J. JAROS.

Chicago, June, 1887.



# HYGIENIC CLOTHING.

BY L. L. MCARTHUR, M. D.

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[Abstract of a paper read before the Chicago Medical Society on January 4th, 1886.]

The object of clothing should be the promotion and maintenance of good health, together with a feeling of well-being under all atmospheric conditions.

Consideration of the subject naturally subdivides itself into:

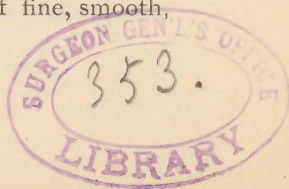
- I. Materials.
- II. Texture.
- III. Form of clothing.

Chief among the materials used for clothing in the order of their respective merits are linen, cotton, silk, and wool, the latter being the best.

A few words as to these materials in the raw state:

Linen conducts heat better than cotton, silk or wool. It absorbs moisture and does not shrink. Cotton, also a vegetable fibre, which is hard, durable and does not shrink, has serious objections, in that it is very non-absorbent of moisture. It does not conduct heat as well as linen, but more rapidly than silk or wool.

Silk, an animal product, consisting of fine, smooth,





round fibrillæ, having been in the liquid condition before leaving the body of the silkworm, possesses no central canal, and no oily coating. It is quite a good absorbent of moisture, ranking next to wool. At ordinary temperature it always contains between 9 and 12 per centum of moisture. In its sale or purchase, account is taken of the amount of moisture in order to protect the purchaser from paying silk prices for water.

Wool, the fleece of sheep, an animal fibre, whose function in nature has been two-fold, the protection from cold, and an aid to evaporation of cutaneous moisture, is admirably fitted as a material for clothing. It permits but slow radiation of heat, and absorbs moisture better than any other clothing-material. It does this, according to Parkes, in two ways. 1st. By interposition between the fibres. 2d. By penetration into the central canal. His experiments led him to believe its hygroscopic powers double in proportion to its weight and quadruple for surface, as compared with cotton or linen. Perfectly dried wool has the power of absorbing 50 per centum, by weight, of water. Under ordinary conditions it contains 12 to 18 per centum.

Other things being equal, then, woollen fabrics will best prevent too rapid radiation of heat, silk next, cotton third, linen fourth.

Wash-leather, buckskin, and chamois-skin need not be considered, for one or all of the following reasons: Expense, poor provision for evaporation, poor washing qualities.

As absorbers of moisture rank, respectively, wool, silk, linen and cotton.

*The advantages of cotton over wool lie in its cheapness and non-shrinking qualities. If properly constructed, however, the advantageous properties of wool can be utilized, without the shrinking by using a cotton framework, into the meshes of which the loose, raw fleece is worked.*

That fabric will be best adapted for health, which combined with greatest porosity, possesses the least (a) conductivity, (b) greatest hygroscopic power, and (c) best shape.

By porosity is understood the freedom with which air can pass through the interstices of a fabric. Pettenkoffer's practical demonstrations with the following cloths shows that if heavy flannel be taken as permitting 100 parts of air to pass, linen permitted 60.3 or 60 per centum; lambskin 50.7 or 50.7 per centum; silk fabric, heavy, 14.4 or 14.4 per centum, glove-leather 1.5 or 1.5 per centum.

The conclusion follows that porosity does not injure the powers of preventing radiation, (it even increases it) for flannel, admittedly the warmest clothing, permits the freest circulation of air.

In consequence of the fact of a fabric's possessing great porosity, it contains in its interstices, what might be called "residual air." Whether gases possess conductivity is open to discussion, but this is certain, that such power is very small. Could we by any means en-

velope the body in a layer of stationary air we could reduce the heat-loss to a minimum. A striking example of the poor conductivity of *stationary air* is related by Dr. Kane, the Arctic explorer, who found that on perfectly still days they could withstand without suffering a temperature of  $-70^{\circ}\text{F.}$ , with ears and hands exposed, but the moment a breeze sprang up it became necessary to seek immediate shelter.

Although impossible to perfectly accomplish this (i. e., the surrounding of body in a stationary envelope of air), that cloth or fabric which most nearly approximates this, other things being equal, will prove itself the warmest as well as best adapted for evaporation of cutaneous moisture. Such a nearly stationary air occurs naturally in the various pelts, and although in many the integument is visible beneath, yet they can withstand the most rigorous weather. Thus Krieger's experiments with tin cylinders containing hot water with two coverings of different materials, between which an interval of  $\frac{1}{8}$  to  $\frac{1}{4}$  inch was left, proved (after subtracting the amount due for conduction) the impediment to radiation by the second layer to be, viz., linen, 32; silk, 32; flannel, 29.

Thus showing that the stationary air, rather than the material out of which the second layer was made, was the main factor in preventing radiation.

He then experimented with single and double layers of the same material surrounding these cylinders, obtaining the following instructive results; the numbers



representing the proportionate loss of heat through double to single layers, the losses through the single ones being taken at 100:

Double Stuff "Doppel Stoff" Fleece-lined cotton.....	69—76
Buck-skin .....	74—86
Flannel .....	86
Home-spun linen .....	91
Stout, extra-heavy silk .....	94

From these results the conclusion is obvious that the substance and its weight are of less consequence, where *radiation* is in question, than its texture and volume. Believing that the explanation was due to the "residual air," experiments have been made with loose wadding, noting the rapidity of fall of temperature, on compressing the same wadding, when the fall was far more rapid.

Again, the loss of heat through a rabbit's fur being taken as 100, when shorn of its hair it rose to 190; and further destroying its porosity by a coating of gum-arabic, it rose to 296. (Dict. Hygiene.)

By greatest porosity best provision is made for the evaporation of perspiration, the quantity of which varies greatly under different conditions. In a day of rest the amount as determined by Seguin and Voit is 900 grams (about 1 quart). During exercise it may increase to quantities incredible, were the figures not furnished by the best of observers. For example, Dalton mentions its increase to 380 grams per hour! and Dr. Southwood Smith has seen it rise to 1,600 grams per hour during violent exercise in a heated atmosphere!

Now if a clothing possesses no porosity, *e. g.*, the mackintosh, and rubber clothing generally, even without exercise there would collect somewhere beneath it a quart of water, but if exercise be indulged in, the quantity may become large indeed; particularly after the atmosphere beneath has been surcharged with vapor and evaporation ceases to occur from the surface, and with it the grateful cooling process. The French Government has not permitted its introduction into its army for such obvious reasons. Of course, for a short time during a shower they may and do prove useful; but I am convinced that many have incurred most serious injury, even death, by throwing off the rubber clothing, after the inner clothing had become permeated with moisture, when the chilling, incident to the sudden increased evaporation, has resulted in some acute inflammation.

Moreover, the evaporation of the normal cutaneous moisture (with that of the lungs) requires 750 heat units or one-fifth of all the heat produced in the system (Dalton). Conservation of part of this loss contributes an equivalent amount of force to the organism, since heat and force are interchangeable terms. *This can be done!*

Under normal conditions evaporation of perspiration occurs in the "insensible," *i. e.*, vapor state, but change of these conditions (increased heat, and moisture in the atmosphere, increased exercise, etc.,) causes it to collect upon the integument in the visible or sensible state, and

unless conducted away, may chill the body. Prevention of such condensation will avoid such dangerous and deleterious influences. The cause of condensation is a lowering of the temperature. *We have simply to maintain its temperature until at a perceptible distance from the body. This can be accomplished by a layer of loose wool, such as is hereafter described. The "residual air" having been once raised to the body temperature, it remains so, and the vapor does not assume the liquid state until meeting with the chilling influences in the outer layer of cloth.*

Finally, bodies passing from the gaseous to the liquid state emit the heat—latent heat—which was essential to their assuming the gaseous condition. This occurring in the case of perspiration in the cloth-interstices increases by just so much their warmth, in other words lessens the demand for heat-production.

Before leaving the subject of texture, note should be made of the importance of its being of a loose nature. *However great the hygroscopic power of a material in the raw state, if it be tightly woven that power is greatly diminished, or even quite destroyed. Hence the advantage of loosely-knitted over tightly woven goods.*

Important indeed is the proper fitting of clothing. However good the materials they may then not accomplish their purpose for the following reasons:

I. By close application to the skin certain materials acting as cutaneous stimulants, maintaining an active equable circulation. Wool possesses this property most

markedly; even in some delicate skins proving an irritant. A very marked increase of oily matter is excreted over these areas where oil-glands exist in greatest abundance, *i. e.*, mesial line of thorax, in front and behind; thus improving the flexibility of the skin.

II. By fitting neatly, chambers of air heated by the body are not with every change of position of the wearer forced out, as occurs in illy-fitting clothing. Upward currents of air naturally occur, and if permitted to exist carry off large amounts of caloric. Simple attention to these two facts reduced the death-rate of the Würtemberg Army Corps, from 3.22 to 1.64 as compared with the other departments of the German Army.

The general application and advantages of such an ideal clothing to diseased conditions, it is needless for me to describe to a body of medical men; but particular references ought to be made to rheumatism and nephritis ("kidney troubles"). To the former because best provision is made for cutaneous elimination (always acid!) so essential in that disorder, in which there is so marked a diminution in the alkalinity of the blood; to the latter because sudden congestions are obviated in an organ already overworked, by preventing sudden chilling of the surface.

*It only remains for me to call your attention to my accidentally finding such a clothing upon a patient of mine (Mr. Faros,) and the tests to which I have put it.*

*He described its history and manufacture as follows:*

*"While suffering from an attack of rheumatic sciatica in the Harz mountains, following a peasant's advice I enveloped myself in loose lamb's fleece, which he provided, and I experienced speedy relief. On reaching Berlin I consulted Chief-Councillor-of-Health, Dr. Abarbanell, who advised me to have constructed some underwear with a fleece lining. I sought a weaver and had some underwear knitted, into the meshes of which were worked, 'by hand,' during the process of knitting, layers of loose lamb's wool."*

Now, gentlemen, this device was a particularly happy one, in that all the requirements of a truly hygienic wear are provided for.

*Porosity, warmth, absorbent powers, and elasticity. With advice he set to work and perfected a modification of the knitting-machine which incorporated into the meshes of the cloth, loose lamb's wool. The samples presented speak for themselves as to its success. By the use of such a fabric, perspiration (unless excessive indeed) remains in the insensible state until it meets with the cooling influences externally in the cotton framework, the integument remaining dry; while the cotton back, as well as the linen shirt over it, may be "wringing wet." Exposure to cold draughts with such a suit does not chill the integument because the sudden increased evaporation occurs at a distance from the skin, and is separated from it by a layer of wool.*

*To test the soundness of the theory I submitted my-*



self to a temperature of  $115^{\circ} F.$ , under as nearly as possible the same atmospheric conditions, with the three chief winter suitings, and obtained the results in table below:

	Jaros Hygienic Wear.	"Nonotuck" Silk Suiting, heavy.	Cartwright & Warner's.
Weight after.....	8,020	7,867	10,840
" before exposure.....	7,010 grs.	7,140	9,600
Difference.....	1,010 grs.	727 grs.	1,240
Degree of absolute dryness of air...	61,827	77,32	69,947
Temp. dry bulb therm.....	$115^{\circ} F$	$113^{\circ} F$	$116^{\circ}$
Temp wet bulb therm.....	$9^{\circ}$	$83^{\circ}$	$88^{\circ}$
Sensation.....	Warm but not sticky; outer surface damp; skin dry where wear touches: comfortable.	Cooler than other wear; sticky; skin damp; comfortable.	Sticky, clammy; wet thro'; uncomfortable.

From these experiments it is to be seen, that of all the perspiration exuded, the silk retained (by a small amount) the least; the hygienic wear the next, and the English woolen goods the most. Note, however, must be taken of two facts concerning the experiment with the silk-clothing.

1st. The temperature was  $2^{\circ} F.$  lower than when testing the hygienic wear and  $8^{\circ}$  than the English goods. Hence less perspiration was thrown out.

2d. *There was a difference of  $15.5^{\circ}$  of absolute dryness of the atmosphere, hence evaporation took place more rapidly from the silk goods in the dryer atmosphere. The barometer remained almost stationary during the three days of observation.*

*On emerging from the hot room into one of a temperature of  $70^{\circ}$  F., an immediate chilling was felt with the silk goods; while the English gave a sensation of moisture and cold. The chilly sensation was not experienced with the woolen-lined hygienic-wear.*

### CONCLUSIONS.

- 1st. *That the fleece-lined goods are warmest.*
- 2d. *Permit at least equal evaporation with the silk.*
- 3d. *Guard against sudden chilling of the body.*
- 4th. *Are cheaper than silk and as cheap as Cartwright & Warner's.*
- 5th. *Are particularly indicated in rheumatism and kidney-disease.*

## TESTIMONIALS.

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### BRIGHT'S DISEASE AND ALLIED AFFECTIONS OF THE KIDNEYS.

BY CHARLES W. PURDY, M. D., Prof. of Genito-Urinary and Renal Diseases in the Chicago Polyclinic.

#### Chapter 1.—Albuminuria.—Pages 54-55.

THE SKIN.—“\* \* \* The most thorough protection to the skin is secured by the use of the JAROS HYGIENIC WEAR, especially during the cold and damp season. \* \* \* It will be seen that the cotton fabric secures a comparatively static condition of air next the skin, while the fleece wool combines the minimum radiation of heat from the body with the greatest attainable hygroscopic power, thus securing uniform dryness and warmth of the skin under varying conditions of atmosphere. Dr. L. L. McArthur has demonstrated before the Chicago Medical Society the superiority of the Jaros Wear over all other fabrics for the purpose of protecting the skin against rapid changes of temperature and humidity, and my own experience with it altogether bears out his deductions.”

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### CHRONIC BRIGHT'S DISEASE OF THE KIDNEYS.

J. H. PRICE, M. D., Elmira, N. Y.

(Abstract of Paper read before N. Y. State Medical Society, July, 1886.)

“Fleece lined or silk under-garments, according to the season, should be worn next to the skin the entire year. I would especially recommend for these patients the “Jaros hygienic underwear;” these garments are light, warm, and delightfully soft. They afford full protection to the body against sudden chilling.

## PHYSICIANS -RENAL DISEASE, GEN'L VALUE. 15

MOSES GUNN, M. D. LL. D., Treas. Rush Medical College, Professor Surgery, 2101 Calumet Ave.

MR. J. JAROS, CHICAGO, Dec. 10, 1885.

I have been wearing for the past few weeks the fleece-lined underclothing of the Jaros' Hygienic Wear.

As a protection in extreme cold weather, this fabric is most comfortably efficacious. It also reduces to a minimum the unpleasant chilly sensations incident to a sudden change from an overheated room to the untempered cold of out-door winter weather. It possesses, therefore, hygienic value.

MOSES GUNN, M. D. LL. D.

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DE LASKIE MILLER, Ph. D., M. D., Secretary Rush Medical College, Prof. Obstetrics.

MR. J. JAROS, City. CHICAGO, Dec. 1, 1885.

I have examined specimens of your "Jaros Hygienic Wear" with much interest. In material and construction these garments fulfill completely, the requirements of the scientific essentials in underwear, insuring to the highest degree both the comfort and the health of the wearer, and as such I recommend them.

DE LASKIE MILLER, Ph. D., M. D.

I concur in the above.

J. ADAMS ALLEN, M. D. LL. D., President Rush Medical College, Prof. Practice of Medicine.

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I. N. DANFORTH, A. M. M. D., Prof. of Renal Diseases, Chicago Medical College.

Chicago Medical College, Medical Department }  
North-Western University, CHICAGO Jan. 6, 1886. }

J. JAROS, Esq

My Dear Sir: -I am much impressed with the value of the Jaros Hygienic Wear, especially in renal and other diseases in which sudden changes of body temperature are hazardous. I think it will prove a valuable addition to our means of treating chronic, renal and other diseases in which full protection of the skin is all important.

Yours truly,

I. N. DANFORTH, A. M. M. D.

We refer with permission as to the Scientific Principles and Hygienic merits of the Jaros Hygienic Wear.

TO H. A. JOHNSON, M. D., LL. D., Emeritus Professor, Chicago Medical College, and

N. S. DAVIS, JR., A. M., M. D., Adj. Prof. Practice Principles of Medicine, Chicago Medical College.

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OSCAR C. DEWOLF, A. M., M. D., Prof. Hygiene Chicago Medical College, Commissioner of Health.

City of Chicago Department of Health, }  
CHICAGO, Dec. 24, 1884. }

I have been wearing during the past cold the Jaros Hygienic underwear. I have never worn underclothing which gave me so much satisfaction. The garments are light, warm and delightfully soft, and if properly washed retain their fleecy wool surface.

OSCAR C. DEWOLF, A. M., M. D.

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D. A. K. STEELE, M. D., Surgeon and Consulting Physician, Chicago City Railway Co., Ex-President Chicago Medical Society, Prof. Orthopedic Surgery, College of Physicians and Surgeons of Chicago, etc.

J. JAROS, Esq., Chicago.

CHICAGO, Jan 6, 1886.

My Dear Sir:—I have critically examined and practically tested the "Jaros Hygienic Wear," manufactured by the Novelty Woolen Works, and consider it the best fabric with which I am acquainted, for retaining the animal heat and preventing chilling of the body by sudden changes of temperature. I consider the heavy wear especially valuable for car-drivers, firemen, policemen, or those whose occupation expose them constantly to the inclemency of the weather.

Through my suggestion to the officials of the Cable Railway Company, many of the Grip Drivers and Conductors are already using this wear with the greatest satisfaction, lessening their risk of "taking cold," and bettering their HEALTH and EFFICIENCY.

Very truly yours,

D. A. K. STEELE, M. D.



MARY HARRIS THOMPSON, M. D., Clinical Prof. of Obstetrics and  
Gynæcology, Women's Med. College,  
26 Central Music Hall.

MR. J. JAROS:

CHICAGO, Nov. 15, 1885.

Dear Sir:—The "Jaros Hygienic Wear" is unsurpassed in its purpose of retaining an equable temperature and moisture of the surface of the body, thus preventing an undue and sudden chilling, thereby inducing catarrhs of the mucus membranes, conditions so common in this latitude. Its economy and therapeutic value is apparent.

Respectfully,

MARY HARRIS THOMPSON, M. D.

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ROBERT H. BABCOCK, M. D., No. 70 Monroe Street, Room 29.

MR. JAROS:

CHICAGO, Feb. 10, 1887.

Dear Sir:—I am sincere in expressing a favorable opinion of the "Jaros Hygienic Wear" so far as my experience allows me to judge. The patients to whom I have recommended it are of delicate health, very susceptible to cold. They uniformly expressed themselves as pleased with the garments made for them by you, and as having suffered far less from the cold this winter than usual; a result which they attribute directly to the power of the underclothing to prevent sudden chilling of the body upon transition from a high to a low temperature. Personally, I have worn the underclothing all winter, and believe my unwonted freedom from attacks of bronchitis due to the efficient protection afforded by the underwear. Your cloth seems to me to be a better non-conductor than other woolen materials, and therefore particularly suitable to persons with heart or lung disease.

I am, very truly yours,

ROBERT H. BABCOCK, M. D.

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PLYMMON S. HAYES, M. D. Prof. Gynæcology, Chicago Polyclinic.

MR. J. JAROS:

CHICAGO, Aug. 11, 1886.

Dear Sir:—I have found all the indications of a truly Hygienic Wear in your underclothing, and certainly consider it the ideal wear for this climate.

Yours truly,

PLYMMON S. HAYES, M. D.

ROBERT HUNTER, M. D., No. 103 State Street, corner of Washington.

MR. J. JAROS:

CHICAGO, Oct. 24, 1885.

Dear Sir:—I have great pleasure in expressing my entire approval of your underwear. It affords a better protection to the body in our variable climate than any kind of flannel in use. Nothing but wool is fit to maintain the capillary circulation of the skin, preserve warmth and promote insensible perspiration, without which good health is impossible. I find your garments invaluable in the treatment of lung complaints, and recommend them to all my patients.

ROBERT HUNTER, M. D.

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J. H. THOMPSON, M. D., 204 Wisconsin Street.

MR. J. JAROS, Chicago:

MILWAUKEE, Wis., Jan. 29, 1887.

Dear Sir:—After months of wear and prescription of the "Jaros Hygienic Clothing" I can fully endorse it as the best wear now used, and I confidently advise it for its prophylactic and therapeutic properties.

J. H. THOMPSON, M. D.

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P. M. LUSSEN, M. D.

MR. J. JAROS, Chicago:

SAN JOSE, Cal., Feb. 6, 1887.

Dear Sir:—I am pleased to state that the "Jaros Hygienic Wear" has proven the nicest wear worn or prescribed by me, and have found them of great value in treatment of delicate patients. By a more general use many people would recover health or prolong life.

Respectfully yours,

P. M. LUSSEN, M. D.

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WM. H. HAWKES, M. D., 1330 New York Avenue.

MR. J. JAROS, Chicago:

WASHINGTON, D. C., Feb. 5, 1887.

Dear Sir:—There is indeed need of undergarments as you manufacture in a climate so variable. I am satisfied with the hygienic principles underlying them, and have been pleased in prescribing them. Shall be glad to know the Wear is procurable in Washington.

Very truly yours,

WM. H. HAWKES, M. D.

JOHN H. PRICE, M. D., Sec'y Chemung County Med. Soc., N. Y.

J. JAROS, ESQ.:

ELMIRA, N. Y., Apr. 29, 1887.

My Dear Sir:—The object of clothing is to preserve the proper heat of the body, by protecting it both from cold and heat, and thus to prevent the injurious action of sudden changes of temperature upon the skin. This object is most admirably accomplished by the "Jaros Hygienic Wear." I have demonstrated this most important fact in my own person during the past six months. For several years past I have been much annoyed by occasional attacks of muscular Rheumatism. Since I began to wear the "Jaros Hygienic Clothing" I have been almost entirely free from these attacks. I deem them a valuable auxiliary in the treatment of *Consumption, Bright's Disease and Rheumatism.*

Very truly yours,

JOHN H. PRICE, M. D.

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L. J. KELLOGG, M. D., Cor. Seventh and I Streets.

J. JAROS, ESQ.:

SACRAMENTO, Cal., July 19, 1886.

Dear Sir:—In regard to your goods, I am very glad to state their worth. They have proven more efficient than any other wear in the actions for which truly hygienic wear is sought, and therefore I cheerfully recommend it to my patients. It laundries beautifully without shrinking.

Sincerely yours,

L. J. KELLOGG, M. D.

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H. TYLER WILCOX, M. D., Cor. Garrison Avenue and Gamble Streets.

MR. J. JAROS:

ST. LOUIS, Mo., Jan. 31, 1887.

Dear Sir:—With reference to the use of your "Hygienic Wear" I would say that I am greatly pleased with it. All my patients have been benefited from its use, and are delighted, some saying they would not part therewith for double the cost. In debilitated *Nervous Troubles, Kidney* and especially *Lung Complaints*, it is a therapeutic agent, almost indispensable in this and all northern climates.

Respectfully,

H. TYLER WILCOX, M. D.

## 20      REPORTS—FIRE AND POLICE DEP'TS.

We further refer, with permission, as to the therapeutic and prophylactic value of the Jaros Hygienic Wear, to the following medical gentlemen:

S. SMITH, M. D., Emeritus Prof. Materia Medica and Therapeutics, Hahneman Medical College, Chicago.

A. E. SMALL, A. M., M. D., Prof. Principles and Practice of Medicine, Hahneman Medical College, Chicago.

MILTON JAY, M. D., Prof. Surgery, Dean Bennett Med. College, Chicago.

D. A. CASHMAN, M. D., Prof. Hygiene, Bennett Med. College, Chicago.

ALBERT LEFFINGWELL, M. D.

JAMES C. JACKSON, M. D., Head of Staff, Sanitarium, Dansville, N. Y.

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Through introduction of Dr. O. C. DeWolf, Commission of Health, to Chief Sweeney, of Fire Dept., the following report was the result with the men of 1st Battalion with the extra heavy fleece wear:

JOHN REDELL, Chief of Battalions, C. F. D.  
Fire Department of the City of Chicago, }  
CHICAGO, ILL., Feb. 17, 1886. }

J. JAROS, ESQ.:

Sir:—Having become interested in the results from wearing your underwear by myself and my men, I am pleased to state their own experience, which is satisfactory in *every particular*, as to protection against the cold and changeable temperatures; raising the general condition of the body, and maintaining an even temperature under all the trying conditions; does *raise their efficiency*. Personally, I can corroborate the good effect from wear, through the most trying conditions.

Very respectfully,  
JOHN REDELL.

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J. J. GALLIGAN, Chief.

Office of Chief Engineer Omaha Fire Department, }  
OMAHA, NEB., Feb. 21, 1887. }

J. JAROS, ESQ., Chicago, Ill.

Dear Sir:—With regard to the "Jaros Hygienic Wear," extra heavy fleece, I can say they have given eminent satisfaction among the number of members of the Omaha Fire Department, who have found it very comfortable in the biting blasts of winter, while fighting fire in exposed streets. These impenetrable undergarments are just the necessity for men whose calling keep them out doors in winter and at nights, and they will certainly meet with approval by all who try them in rigorous weather, as they were unanimously commended by my brave fellows in this metropolis of the Upper Missouri.

Yours respectfully,  
J. J. GALLIGAN.

Accepted by advice of Dr. Book, Surg. of Police Department, to Police Commissioners, Dec. 29, 1886.

JAMES E. PITTMAN, Superintendent of Police.

SUBJECT, "JAROS HYGIENIC WEAR."

Metropolitan Police Department,  
Superintendent's Office, DETROIT, MICH., April 22, 1887. }

MR. J. JAROS, Chicago.

Dear Sir:—I take pleasure in stating that the members of this department who used your undergarments (ex. heavy fleece) during the past winter are unanimous in expressions of approval and satisfaction. They proved to be fully as efficacious for comfort, and protection against cold and change of temperature as was promised for them. I have no doubt that the use of these garments, which was limited (it being first season) during the past winter, will be greatly extended in this department in the future.

Respectfully,

JAMES E. PITTMAN.

JOHN H. PAGE, Major 11th Infantry, U. S. A.

United States Army, War Department,  
FORT ABRAHAM LINCOLN, Dakota, Jan. 20, 1886. }

MR. J. JAROS, 103 State Street, Chicago, Ill.:

Sirs:—Your heavy wear I have named "Blizzard" Underwear, after wearing a suit myself, with the mercury 27 degrees below zero, with a twenty-mile wind, I was perfectly comfortable, and felt a warm glow of the skin during the whole trip. My ambulance driver reports his experience with the thermometer 35 degrees below zero, and in a heavy gale, saying the drawers were much warmer than two pairs of very heavy woolen drawers he had been wearing, and that he did not feel the cold in the slightest degree. We found it washed as well as any woolen goods, and did not shrink. I am fully convinced of the excellent qualities of your goods, and find them doing good service. I will request the other officers to report to you also.

Very respectfully,

JOHN H. PAGE.

CAPT. F. M. McDOUGALL, 7th Cavalry, U. S. A.

MR. J. JAROS, Chicago, Ill.:

FORT MEAD, DAK., Nov. 26, 1886.

Dear Sir:—The fleece underwear of your make is fulfilling every expectation, and I am personally also deriving the benefits and enjoying its wear.

Respectfully,

CAPT. F. M. McDOUGALL.



JOHN H. PAGE, Major 11th Infantry, U. S. A.

MR. J. JAROS, Chicago, Ill.

FORT YATES, DAK., Aug. 18, 1886.

Dear Sir:—I am personally delighted with your underwear, and shall use no other. Was free from rheumatic pains last winter, and I attribute it to the healthy condition of my skin from the use of your clothing.

Very respectfully,

JOHN H. PAGE.

ROBT. STEVENSON & CO., 92 and 94 Lake Street.

J. JAROS, Esq.

CHICAGO, Dec. 1st, 1886.

Dear Sir:—Two years ago I was prostrated by intercostal neuralgia. My physician—Dr. W. H. Denslow Lewis, of Hyde Park—prescribed your underwear, which I have worn ever since, both summer and winter.

They afford me great comfort, and have thus far warded off all neuralgic symptoms, although my duties compel me to sit in a draft much of the time.

Sincerely yours,

I. GILES LEWIS.

J. F. MERRY, Gen'l Western Pass. Agent Illinois Central Railroad Company.

Office of General Western Passenger Agt., }  
MANCHESTER, IA., May 7, 1887. }

J. JAROS, Esq.:

My Dear Sir:—I have worn the "Jaros Hygienic Underwear" nearly six months. Have not had a cold during the time, nor a sense of chilliness even during the coldest weather. My Catarrh has scarcely troubled me at all during the winter, and I would not be without these suits were the cost ten times what it is. You are at liberty to say to railroad men, and others exposed to extreme changes of climate, that they cannot afford to be without the Jaros Hygienic Underwear.

Yours truly,

J. F. MERRY.

Preceding this, Mr. Merry wrote a friend in Dubuque, dated

MANCHESTER, IA., Dec. 1, 1886.

Going home yesterday to dinner, I found awaiting me a suit of underwear, and I was not very long in putting myself inside of them, but with no idea that I could wear them, having tried almost everything that contained wool, but never having found a garment I could wear next to my skin containing a particle of wool. I have worn the suit for two days without an unpleasant sensation; on the contrary, they are delightful, and just what I needed.

Please have the following order filled for me.

\* \* \* \* \*

Yours truly,

J. F. MERRY.

FROM RT. REV. BISHOP CHENEY.

CHAS. EDW. CHENEY:

Rector's Study, Christ Church, 2409 Michigan Avenue, }  
CHICAGO, Nov. 29, 1886. }

J. JAROS, ESQ., Room 5, Central Music Hall, City:

Dear Sir:—I take pleasure in saying, that by the advice of my physician, I obtained from you two suits of "Jaros Hygienic Wear." I commenced wearing the same two weeks ago Saturday last. Up to that time I had been a sufferer from a torturing rheumatic pain in my right shoulder, which persisted in waking me about 4 o'clock every morning, and which medicines seemed to relieve only temporarily. From the hour that I commenced the use of your underwear, I have never had the slightest twing of this pain. I feel under personal obligations to you for the relief which I have experienced.

Very truly yours,

CHAS. EDW. CHENEY.

F. H. VAN LIEW, M. D.

MR. J. JAROS,

HINSDALE, Ill., May 24, 1887.

Dear Sir: There has been a want in the truly hygienic features in the undergarments so generally offered, which has in many cases added obstacles in the treatment of certain diseases. I feel satisfied that the "Jaros Hygienic Wear" possesses the great essentials in clothing, maintaining an even temperature over the entire body and transmitting moisture in the manner peculiarly claimed for your material. The effect on such patients as I have prescribed it is satisfactory indeed, and the experience on my own person in a case of Articular Rheumatism of long standing, is truly marked. The condition of my body for the last two winters, during which I have used the "Wear" was a feeling of comfort and relief from pain, formerly caused by every change of temperature. For Rheumatism and Catarrhal patients I am free to say this is a valuable adjunct to our means of treating same.

Yours Very Truly,

F. H. VAN LIEW, M. D.

THE FOLLOWING ARE THE ARTICLES COMPRISING THE  
JAROS HYGIENIC WEAR.

---

**UNDERWEAR,** for Ladies, Gents and Children, including combination suits for Soldiers, Firemen, Policemen, Etc., (heavy fleece) including full "Blizzard Suits."

**NIGHT ROBES,** for Ladies, Gents and Children.

**PROTECTORS,** Chest and Lung, Lung, Stomach and Kidney.

**BOWEL BANDS,** for Gents and Ladies.

**INFANTS' WEAR,** all Descriptions to Order.

**STOCKINGS AND SOCKS,** for Ladies and Gents. Different weights.

**SHOES, Out-Door,** for Ladies and Gents.

**SHOES, In-Door,** for Ladies, Gents and Children.

**INSOLES,** for Ladies, Gents and Children.

**JACKETS,** for Ladies and Gents. Different Grades.

**COVERLETS AND SPREADS,** Heavy Fleece.

Information on any articles not here enumerated furnished  
on application.

**ALL ARTICLES MADE TO MEASURE.**

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For particulars as well as samples, please address

**JAROS HYGIENIC UNDERWEAR CO.**

~~227 DEAN STREET, CHICAGO, ILL.~~

**CHICAGO, ILL.**

**125 STATE STREET.**



